



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,283	11/19/2001	Munenori Iizuka	Q67302	8484

7590 11/15/2004
SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037-3213

EXAMINER
AUGHENBAUGH, WALTER

ART UNIT 1772	PAPER NUMBER
------------------	--------------

DATE MAILED: 11/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/988,283

Applicant(s)

IIZUKA ET AL.

Examiner

Walter B Aughenbaugh

Art Unit

1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2004 and 13 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-7 and 27-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-7 and 27-31 is/are rejected.
- 7) ☒ Claim(s) 6,7,30 and 31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 12, 2004 has been entered.

Acknowledgement of Applicant's Amendments

2. The cancellation of claims 1, 8-12, 14-21, 23-25, 32-36, 38-45 and 47-50 in the Amendment filed August 12, 2004 has been acknowledged by Examiner. N.B. claims 2, 13, 22, 26, 37 and 46 were cancelled in the Amendment filed June 20, 2003.
3. Applicant's amendments in claims 3-6 and 27-30 in the Amendment filed August 12, 2004 have been received and considered by Examiner.

WITHDRAWN OBJECTIONS

4. The objection to claims 11, 24 and 48 made of record in paragraph 6 of the Final Rejection has been withdrawn due to the cancellation of claims 11, 24 and 48 in the Amendment filed August 12, 2004.

REPEATED OBJECTIONS

5. The objection to claims 6, 7, 30 and 31 made of record in paragraph 6 of the Final Rejection has been repeated for the reasons previously made of record in the Final Rejection.

WITHDRAWN REJECTIONS

6. The 35 U.S.C. 103 rejection of claims 3-5 and 27-29 that was repeated in paragraph 5 of the Final Rejection has been withdrawn due to Applicant's amendments in the claims in the Amendment filed August 12, 2004.

7. The rejection/s of claims 1, 8-12, 14-21, 23-25, 32-36, 38-45 and 47-50 that were repeated or made of record in paragraphs 5 and 7-13 of the Final Rejection have been withdrawn due to the cancellation of claims 1, 8-12, 14-21, 23-25, 32-36, 38-45 and 47-50 in the Amendment filed August 12, 2004.

REPEATED REJECTIONS

8. The 35 U.S.C. 112 rejection of claims 6, 7, 30 and 31 made of record in paragraph 7 of the Final Rejection has been repeated for the reasons previously made of record in the Final Rejection.

NEW REJECTIONS

Claim Rejections - 35 USC § 103

9. Claims 3-7 and 27-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuura et al. in view of Nishimuro et al. and in further view of Coran et al.

In regard to claims 3, 5-7, 27 and 29-31, Matsuura et al. teach a polymer sheet that is made of a conductive resin composition that consists essentially of a resin base material and a conductive agent wherein the resin base material is a mixed resin of a polyamide resin and a low water absorption resin (polypropylene or polyphenylene sulfide) (col. 2, lines 29-37 and col. 1, lines 11-13). Matsuura et al. teach that the sheet is stable in regard to the effect of water vapor with the passage of time (col. 1, line 64-col. 2, line 2); therefore, Matsuura et al. teach that the

polypropylene or polyphenylene sulfide is a low water absorption resin. Furthermore, polypropylene and polyphenylene sulfide are hydrophobic polymers (as evidenced by U.S. 5,002,871 to Iacobucci, col. 4, lines 36-37, in regard to polypropylene and as evidenced by U.S. 4,948,508 to Nakagawa et al., col. 3, lines 61-67, in regard to polyphenylene sulfide): since hydrophobic polymers have a water absorption percentage of 0%, a value that falls within the range that is claimed by Applicant, the low water absorption resin of Matsuura et al. has a water absorption percentage of 0%. In regard to claim 30, Matsuura et al. teach the inclusion of a photoconductor layer on the peripheral surface of the sheet of the resin base material for the intended uses as a electrostatic recording sheet or electrophotographic photosensitive material (col. 5, lines 19-27).

Matsuura et al. fail to teach that the sheet is in cylindrical form, that the low water absorption resin has a water absorption percentage in a range of 0.3% or less, that the conductive resin composition further comprises a compatibility enhancing agent for enhancing a compatibility between the polyamide resin and the low water absorption resin and, in regard to claims 5 and 29, that the content of the low water absorption resin is 1 to 70 wt % on the basis of the total weight of the resin base material.

Nishimuro et al., however, disclose a cylindrical base body (item 1, Figure 1) for a photosensitive drum that is molded from a resin to which a conductive agent is added (col. 2, lines 64-67). Nishimuro et al. also disclose that a photosensitive layer (item 3, Figure 1) is formed on the outer peripheral surface of the cylindrical base body. Nishimuro et al. disclose that the photosensitive drum is used in electrostatic recording processes (col. 1, lines 4-9). Therefore, one of ordinary skill in the art would have recognized to have formed the conductive

Art Unit: 1772

mixed resin of Matsuura et al. into a cylinder, since it is notoriously well known to one of ordinary skill in the art to use cylindrical moldings of conductive resins as a base body of electrostatic recording devices as taught by Nishimuro et al.

Coran et al., furthermore, disclose a thermoplastic composition comprising a polyolefin polymer, a nylon (a polyamide polymer) and a functionalized olefin polymer (col. 8, lines 29-42). Coran et al. disclose that maleic acid modified polypropylene compatibilizes polypropylene and nylon (polyamide) (col. 8, lines 8-10). The maleic acid modified polypropylene taught by Coran et al. is a functionalized olefin polymer. Therefore, one of ordinary skill in the art would have recognized to have added maleic acid modified polypropylene to the mixture of polypropylene and polyamide taught by Matsuura et al. in order to compatibilize the mixture of polypropylene and polyamide as taught by Coran et al.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed the conductive mixed resin of Matsuura et al. into a cylinder, since it is notoriously well known to one of ordinary skill in the art to use cylindrical moldings of conductive resins as a base body of electrostatic recording devices as taught by Nishimuro et al., and to have added maleic acid modified polypropylene to the mixture of polypropylene and polyamide taught by Matsuura et al. in order to compatibilize the mixture of polypropylene and polyamide as taught by Coran et al.

Furthermore, in regard to claims 5 and 29, since Matsuura et al. teach that the polymer sheet is formed of mixtures of polyamide and the low water absorption resins polypropylene or polyphenylene sulfide (col. 2, lines 29-37), the disclosure of Matsuura et al. encompasses all the possible amounts of the low water absorption resin relative to the polyamide. Therefore, it would

Art Unit: 1772

have been obvious to one of ordinary skill in the art at the time the invention was made to have varied the content of the low water absorption resin relative to the weight of the polyamide and also relative to the total weight of the resin base material in order to achieve the optimum water absorption percentage depending on the desired end result, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art in the absence of unexpected results. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

In regard to claims 4 and 28, while Matsuura et al. fail to explicitly teach the particular suitable polyamide types of the conductive resin, Nishimuro et al. disclose that polyamides such as nylon 6 or nylon 66 are suitable as the conductive resin of the cylindrical base body (col. 3, lines 3-8). Therefore, one of ordinary skill in the art would have recognized to have used nylon 6 or nylon 66 as the polyamide of Matsuura et al. since nylon 6 and nylon 66 are notoriously well known suitable polyamides for use as the polymeric component of a conductive resin of a base body of electrostatic recording devices as taught by Nishimuro et al.

ANSWER TO APPLICANT'S ARGUMENTS

10. Applicant's arguments in the Amendment filed August 12, 2004 regarding the objection to claims 6, 7, 11, 24, 30, 31 and 48 have been fully considered but are not persuasive. While the statement "The conductive resin composition cannot comprise any components other than those recited in the independent claims" of paragraph 6 of the Final Rejection is incorrect, the objected claims recite components that fall out of the scope delineated by the "consisting essentially of" phrase of the independent claims. It is stated in MPEP 2111.03 [R-2]

The transitional phrase "consisting essentially of" limits the scope of a claim to the specified materials or steps "and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention. *In re Herz*, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976)

Applicant argues "the use of a compatibility enhancing agent does not change the fundamental properties of the claimed composition", but a blend of a polyamide resin and a low water absorption resin not having a compatibility enhancing agent as claimed necessarily has different basic properties than a blend of a polyamide resin and a low water absorption resin having a compatibility enhancing agent as claimed because the compatibilized blend is a different material from the blend without compatibility enhancing agent.

11. Applicant's arguments in the Amendment filed August 12, 2004 regarding the 35 U.S.C. 112 rejection of claims 6, 7, 30 and 31 have been fully considered but are not persuasive. Applicant's arguments depend entirely upon Applicant's regarding the objection to claims 6, 7, 11, 24, 30, 31 and 48 that have been addressed above.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter B. Aughenbaugh whose telephone number is 571-272-1488. The examiner can normally be reached on Monday-Thursday from 9:00am to 6:00pm and on alternate Fridays from 9:00am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

Application/Control Number: 09/988,283

Page 8


Art Unit: 1772

system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Walter B. Aughenbaugh

11/12/04

WBA


HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772 11/12/04